

# AIMEE SCHWAB-MCCOY



## ACADEMIC APPOINTMENTS

- 2021 • **Lecturer of Statistics and Health Informatics**  
Institute of Technology Sligo • Sligo, Ireland
- 2021 | 2017 • **Assistant Professor of Statistics**  
Creighton University • Omaha, NE
- 2017 | 2015 • **Assistant Professor of Statistics**  
Xavier University • Cincinnati, OH
- 2015 | 2010 • **Graduate Teaching Assistant**  
Department of Statistics, University of Nebraska-Lincoln • Lincoln, NE



## EDUCATION

- 2015 | 2012 • **Ph.D., Statistics**  
University of Nebraska-Lincoln • Lincoln, NE  
• Dissertation: "Beta-Binomial Kriging: An Improved Method for Modeling Spatially Correlated Proportions"
- 2012 | 2010 • **M.S., Statistics**  
University of Nebraska-Lincoln • Lincoln, NE  
• Thesis: "Evaluating the Teaching Assistant Preparation Course at UNL"
- 2010 | 2005 • **B.S., Mathematics**  
University of Nebraska-Lincoln • Lincoln, NE  
• Honors: High distinction



## PEER-REVIEWED ARTICLES

- 2021 • **"Developing Statistical Intuition Through Simulation Studies in a Second Statistics Course"**  
IASE Virtual Satellite Proceedings (Invited) • Forthcoming  
• Aimee Schwab-McCoy
- 2021 | 2020 • **"Misconceptions and Learning Gains about Statistical Inference in Introductory Biostatistics Courses"**  
Journal of Statistics Education • Under review  
• Aimee Schwab-McCoy
- 2020 • **"Computing in the Data Science Curriculum: A Survey of Faculty Practices, Challenges, and Needs"**  
Journal of Statistics Education • <https://doi.org/10.1080/10691898.2020.1851159>  
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper

## CONTACT



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[aimeeschwab-mccoy.github.io](https://github.com/aimeeschwab-mccoy)

## RESEARCH INTERESTS

Statistics and data science curriculum and pedagogy

Generalized linear mixed models (applications in R)

Spatially correlated count data

Statistical consulting

Made w/ [pagedown](#) using  
Nick Strayer's CV guide  
[github.com/nstrayer/cv](https://github.com/nstrayer/cv)













Last updated: 2021-07-16

- 2019 • **“Cellular prion protein gene polymorphisms linked to differential scrapie susceptibility correlate with distinct residue connectivity between secondary structure elements”**  
Journal of Biomolecular Structure and Dynamics  
📍 <https://doi.org/10.1080/07391102.2019.1708794>  
• Patricia Soto, India Claflin, Alyssa Bursott, Aimee Schwab-McCoy, and Jason Bartz
- 2019 • **“The State of Statistics Education Research in Client Disciplines: Themes and Trends Across the University”**  
Journal of Statistics Education 📍 <https://doi.org/10.1080/10691898.2019.1687369>  
• Aimee Schwab-McCoy
- 2018 • **“The incidence of nursing students’ perceived stress and burnout levels at a private university in California”**  
Journal of Nursing Education 📍 <https://doi.org/10.5430/jnep.v8n10p138>  
• Reo J. F. Jones, Margaret M. Hansen, Mahmoud Kaddoura, Aimee Schwab-McCoy, Kirsten Tocchini
- 2018 • **“Bringing Mainstream Media into the Quantitative Literacy Classroom”**  
Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education  
📍 E-ISBN: 9781614443247  
• Aimee Schwab-McCoy
- 2017 • **“Life on an Island: Using Peer Consulting in Applied Statistics Courses”**  
CHANCE: Vol. 30, Special Issue on Climate Change  
📍 <https://chance.amstat.org/2017/11/life-on-an-island/>  
• Aimee Schwab-McCoy
- 2016 • **“Developing a First-Year Seminar Course in Statistics and Data Science”**  
Promoting understanding of statistics about society. Proceedings of the Roundtable Conference of the International Association of Statistics Education (IASE), July 2016, Berlin Germany.  
📍 <https://iase-web.org/documents/papers/rt2016/Schwab.pdf>  
• Aimee Schwab-McCoy
- 2016 • **“Emerging Patterns in Multi-Sourced Data Modeling Uncertainty”**  
Spatial Statistics: Special Issue on Emerging Patterns  
📍 <https://doi.org/10.1016/j.spasta.2016.05.005>  
• Alexander Kolovos, Lynette Smith, Aimee Schwab-McCoy, Sarah Gengler, Hwa-Lung Yu
- 2015 • **“Beta-Binomial Kriging: An Improved Model for Spatial Rates”**  
Procedia Environmental Sciences 📍 <https://doi.org/10.1016/j.proenv.2015.07.101>  
• Aimee Schwab, David Marx

## PRESENTATIONS

*Note: Virtual conference presentations can be viewed on my YouTube channel*

- 2021 • **“Developing Statistical Intuition Through Simulation Studies in a Second Statistics Course”**  
IASE Virtual Satellite 📍 Remote  
• Aimee Schwab-McCoy

- 2021 ● **Toronto Data Workshop: Invited Teaching Panel**  
University of Toronto  Remote  
• Panelists: Aimee Schwab-McCoy, Ashley Juavinett, Chris Papalia, and Samantha-Jo Caetano
- 2021 ● **“Statistics Education Across the University: A Systematic Review”**  
UNL x-DBER Virtual Conference  Remote  
• Aimee Schwab-McCoy
- 2020 ● **“Moving Backward: Designing an R Ecosystem for Academic Programs”**  
Use-R 2020!  Remote (COVID-19)  
• Aimee Schwab-McCoy
- 2020 ● **“Is a Consensus Curriculum on the Horizon?”**  
UC Berkeley Workshop on Data Science Education  Remote (COVID-19)  
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper
- 2020 ● **“Data Science in 2020: Computing, Curricula, and Challenges for the Next 10 Years”**  
Symposium on Data Science and Statistics  Remote (COVID-19)  
• Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper
- 2020 ● **“Subsemble Estimation for Spatial Count Data”**  
Conference on Statistical Practice  Sacramento, CA  
• Aimee Schwab-McCoy, Mark May
- 2019 ● **“Toward Interpretable Machine Learning”**  
Omaha Women in Machine Learning and Data Science (Invited)  Omaha, NE  
• Aimee Schwab-McCoy
- 2019 ● **“Pre-Conceptions of Statistical Inference in Biostatistics”**  
University of Nebraska Medical Center Department Colloquium (Invited)  Omaha, NE  
• Aimee Schwab-McCoy
- 2019 ● **“Pre-Conceptions of Statistical Inference in Biostatistics”**  
Joint Statistical Meetings  Denver, CO  
• Aimee Schwab-McCoy
- 2019 ● **“Applications of Subsemble Estimation in Multivariate Spatial Models”**  
Joint Statistical Meetings  Denver, CO  
• Mark May, Aimee Schwab-McCoy
- 2019 ● **“Pre-Conceptions of Statistical Inference in Biostatistics”**  
US Conference on Teaching Statistics  State College, PA  
• Aimee Schwab-McCoy
- 2018 ● **“Statistics Education Across the University: A Systematic Review”**  
Joint Statistical Meetings  Vancouver, BC, Canada  
• Aimee Schwab-McCoy

- 2018 ● **“Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data”**  
BERD Big Data Methodology Workshop  
• Lynette Smith, Aimee Schwab-McCoy, David Marx  
📍 Omaha, NE
- 2017 ● **“Data-Focused Activities and Lessons in Seminar-Style Introductory Courses”**  
US Conference on Teaching Statistics  
• Aimee Schwab-McCoy, Ming-Wen An Wissman, Adam Molnar  
📍 State College, PA
- 2018 ● **“Life in the Data Deluge: A First-Year Seminar on the Implications of Data Science for Daily Life”**  
Joint Mathematics Meetings  
• Aimee Schwab-McCoy  
📍 San Diego, CA
- 2016 ● **“Developing a First-Year Seminar Course in Statistics and Data Science”**  
IASE Roundtable Conference (Invited)  
• Aimee Schwab-McCoy  
📍 Berlin, Germany
- 2015 ● **“Statistical Consulting: Making Connections Across the Curriculum”**  
US Conference on Teaching Statistics  
• Aimee Schwab, Pamela Fellers  
📍 State College, PA
- 2016 ● **“Peer Consulting in Undergraduate Statistics Courses”**  
Joint Mathematics Meetings  
• Aimee Schwab-McCoy  
📍 Seattle, WA
- 2015 ● **“Beta-Binomial Kriging: An Alternative Model for Spatial Rates”**  
Joint Statistical Meetings  
• Aimee Schwab, David Marx  
📍 Seattle, WA
- 2015 ● **“Beta-Binomial Kriging: An Alternative Model for Spatial Rates”**  
Spatial Statistics 2015: Emerging Patterns  
• Aimee Schwab, David Marx  
📍 Avignon, France
- 2014 ● **“Spatial Simulation and Estimation of Generalized Linear Mixed Models with Non-Normal Data”**  
METMA-GRASPA Joint Meeting  
• Lynette Smith, Aimee Schwab, David Marx  
📍 Turino, Italy
- 2014 ● **“Using the Island to Develop Consulting Skills”**  
Joint Statistical Meetings  
• Aimee Schwab  
📍 Boston, MA
- 2014 ● **“Developing New Statistics Instructors and Student Leaders Through Peer Mentoring”**  
CAUSE Webinar  
• Erin Blankenship, Aimee Schwab  
📍 Online webinar

- 2013 ● **“Facebook Friend Data: Analyzing Non-Random Samples in the Introductory Course”**  
Joint Statistical Meetings 📍 Montreal, Canada  
• Aimee Schwab
- 2013 ● **“Using StatCrunch Friend Data to Illustrate Consequences of a Non-Random Sample”**  
US Conference on Teaching Statistics 📍 Raleigh, NC  
• Aimee Schwab



## GRANTS

- 2020 ● **“Nebraska Institute in Human-Powered AI for Bioimaging”**  
National Science Foundation (NSF 20-503) 📍 Amount: \$45,822 (Under review)  
• Creighton PI: Aimee Schwab-McCoy; Subaward from UNL
- 2019 ● **“Nebraska Center for Modeling, Analysis, Prediction, and Imaging of Data”**  
Nebraska EPSCoR RII Pre-Proposal 📍 Amount: \$13,633,045 (Declined)  
• PI: Jennifer Clarke (UNL); Co-PIs: Martin Centurion (UNL), Bertrand Clarke (UNL), Mikil Foss (UNL), Adam Larios (UNL), Mahbubal Majumder (UNO), Nathan Pennington (Creighton), Petronela Radu (UNL), Aimee Schwab-McCoy (Creighton), Stephen Scott (UNL)
- 2019 ● **“MAPping Data Science: Establishing an Institute for Meaningful Assessment Practices in Data Science”**  
National Science Foundation (NSF 19-549) 📍 Amount: \$434,917 (Declined)  
• PI: Aimee Schwab-McCoy; Co-PIs: Catherine Baker, Rebecca Gasper
- 2019 ● **“Applications of Subsample Estimation in Multivariate Spatial Models”**  
Creighton Haddix President’s Faculty Research Fund 📍 Amount: \$5,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2019 ● **“Faculty Development Grant: Introduction to Data Science”**  
CURAS Certificate in Research and Scholarship 📍 Amount: \$2,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2019 ● **“Faculty Development Grant: Biostatistics”**  
CURAS Certificate in Research and Scholarship 📍 Amount: \$4,000 (Awarded)  
• Co-PIs: Aimee Schwab-McCoy, Andrew Kraemer
- 2018 ● **“Honey Bees in Peril: An investigation of honey bee viral infection dynamics and modeling-implications for Colony Collapse Disorder”**  
Haddix Interdisciplinary Project Grant 📍 Amount: \$15,000 (Awarded)  
• PI: Carol Fassbinder-Orth; Co-PIs: Andrew Kraemer, Aimee Schwab-McCoy
- 2018 ● **“Exploring Student Understanding and Misconceptions of Statistical Inference in Biostatistics”**  
Creighton Scholarship of Teaching and Learning Grant 📍 Amount: \$1,500 (Awarded)  
• PI: Aimee Schwab-McCoy

- 2017 ● **"Statistics Education Across the University: A Systematic Review"**  
Xavier Wheeler Award Amount: \$4,000 (Awarded)  
• PI: Aimee Schwab-McCoy
- 2016 ● **"Creating a Xavier pilot program to support career specialization and persistence of female students in disciplines with underrepresentation"**  
Xavier Women of Excellence Grant Amount: \$10,000 (Awarded)  
• Co-PIs: Laura Wessels, Dena Morton, Aimee Schwab-McCoy, Heidrun Schmitzer

## UNDERGRADUATE RESEARCH

- 2021 | 2020 ● **Modeling social distancing adherence during the COVID-19 pandemic**  
Creighton University Student: Josh Eason  
• Use dimension reductions to create a "mapping" of counties in the US to use in a spatial-temporal model of adherence to social distancing restrictions
- 2019 ● **Subsemble estimation applied to spatial GLMMs**  
Creighton University Student: Mark May  
• Apply subsemble estimation for estimating spatial parameters in a generalized linear mixed model (GLMM).
- 2018 ● **Analysis of high dimensional case-control study**  
Creighton University Student: Jessica Sandcork  
• Evaluate resampling-based multiple testing and adaptive Benjamini-Hochberg procedures to test for statistically significant differences between subjects in a small sample case-control study. Used machine learning to adjust for correlation between variables.

## SERVICE

- 2022 ● **Program Chair; Section on Data Science and Statistics Education**  
Joint Statistical Meetings Washington, DC  
• Coordinate invited and contributed talks at the 2022 Joint Statistical Meetings, as well as organize Birds of a Feather sessions (in-person and virtually) for the 2021 JSM
- 2021 | 2020 ● **Goldwater Scholarship Committee**  
Member Creighton University  
• Review and mentor Goldwater scholarship applications
- 2021 | 2020 ● **OpenIntro Statistics**  
Contributor openintro.org  
• Contribute multiple choice questions developed using the Rexams framework to the OpenIntro Statistics Project
- 2021 | 2020 ● **Magis Core Curriculum Assessment Committee**  
Member Creighton University  
• Review assessment rubrics and plans for Magis Core Curriculum
- 2020 | 2019 ● **Ratio Studiorum Program**  
Freshman advisor Creighton University  
• Advise first-year students in the Ratio Studiorum Program

- 2020  
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2017
- **Reviewer**  
Journal and conference reviews 📍 Various
    - Journal of Statistics Education, Spatial Statistics, Journal of University Teaching and Learning, SIGSCE (Special Interest Group on Computer Science Education) Technical Symposium
- 2020  
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2018
- **Reviewer**  
Textbook reviews 📍 Various
    - Review proposed and revised textbooks: "Foundations of Statistics with R", "The Analysis of Biological Data", "STAT2: Building Models for a World of Data", "Principles of Biostatistics", "Modern Data Science with R"
- 2020
- **Clare Boothe Luce Scholarship Award Committee**  
Member 📍 Creighton University
    - Review applications for Clare Boothe Luce tuition and research scholarship
- 2017  
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2016
- **Quantitative Reasoning Committee**  
Member 📍 Xavier University
    - Review and approve course proposals for Quantitative Reasoning Flag in core curriculum
- 2017  
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2016
- **Hiring Committee**  
Member 📍 Xavier University
    - Review and interview candidates for open positions in statistics



## AWARDS

- 2019
- **Best Young Investigator Award**  
Winner 📍 ASA Section on Teaching Statistics in the Health Sciences
- 2014
- **Best Contributed Paper Award - JSM**  
Winner 📍 ASA Section on Teaching Statistics in the Health Sciences
- 2013
- **Outstanding Graduate Teaching Assistant Award (UNL)**  
Honorable Mention 📍 University of Nebraska-Lincoln